

In the claims:

1. (Withdrawn) A method of using the pharmaceutical dispensing apparatus of claim 23, the method comprising:

selecting the pharmaceutical solution to have the viscosity and fluid surface tension;

filling the reservoir with the pharmaceutical solution;

dispensing the pharmaceutical solution from the fluid dispenser at the predetermined dosage that is substantially reproducible within the variation in reproducibility of less than about 15%; and

measuring an amount of the pharmaceutical solution that is dispensed via the spectrophotometric device.

2. (Withdrawn) The method of claim 1 wherein the active pharmaceutical ingredient is highly concentrated and is applied in a volume.

3. (Withdrawn) The method of claim 2 wherein the ingredient is digoxin, and wherein the vehicle is dimethyl sulfoxide or a mixture of dimethyl sulfoxide and ethanol.

4. (Withdrawn) The method of claim 3 wherein a variation in content uniformity of the pharmaceutical is less than about 15% for dosages of about 1.5 mg per dose of digoxin.

5. (Withdrawn) The method of claim 1 wherein the pharmaceutical is capable of being dispensed onto at least two mediums, and wherein the variation of reproducibility is less than about 15% for the predetermined dosage between the at least two mediums.

6. (Withdrawn) The method of claim 1 wherein drops from the thermal fluid ejection device are used to prepare a tablet with about a 0.125 mg dosage of digoxin.

7. (Withdrawn) The method of claim 6 wherein the drops from the thermal fluid ejection device have a concentration of about 200 mg/ml, and a drop volume of about 30 pL per drop.

8. (Withdrawn) The method of claim 1 wherein the variation in reproducibility is in a range of about 5% to about 9%.

9. (Withdrawn) The method of claim 8 wherein the variation in reproducibility is in a range of about 5.7% to about 8.2%.

10. (Withdrawn) The method of claim 9 wherein the variation in reproducibility is in a range of about 7% to about 7.5%.

11. – 18. (Cancelled)

19. (Withdrawn) A method of testing piezoelectric and thermal fluid ejection devices to evaluate dispersion accuracy, reproducibility and repeatability of pharmaceutical dosages, comprising:

preparing about 200 mg/ml of a first solution of solvent of 2-P:EtOH 80:20 (V/V) and an active pharmaceutical ingredient;

firing a first fluid ejection device to eject the solution onto a first strip;

washing the strip with DI water to form a second solution;

UV analyzing the second solution;

cleaning an orifice plate of the first device after a period of time; and repeating the above steps.

20. (Withdrawn) The method of claim 19 wherein the film is aluminum and coated with Teflon®.

21. (Withdrawn) The method of claim 19 wherein the orifice plate is cleaned after 2 hours.

22. (Withdrawn) The method of claim 19 wherein at least two fluid ejection devices are fired.

23. (Currently amended) A pharmaceutical dispensing apparatus, comprising:  
a fluid dispenser, including:

a thermal fluid ejection device; and

a fluid reservoir in fluid communication with the thermal fluid ejection device;

a pharmaceutical solution to be contained in the fluid reservoir and to be dispensed from the thermal fluid ejection device, the pharmaceutical solution including an active pharmaceutical ingredient dissolved in a vehicle, the active pharmaceutical ingredient being any of digoxin, prednisolone, sulfamethoxazole, or reserpine; and

a spectrophotometric device to measure an amount of the pharmaceutical solution that is dispensed;

wherein the pharmaceutical solution has a viscosity i) ranging from about 1.15 cps to about 1.44 cps, or ii) of 2.6 cps, and a fluid surface tension (a) ranging from about 39 dynes/cm to about 49 dynes/cm, (b) ranging from about 46 dynes/cm to about 54 dynes/cm, or (c) of about 62 dynes/cm;

wherein the viscosity and the fluid surface tension are selected so that the pharmaceutical solution is at a predetermined dosage within a variation of reproducibility of less than about 15%;

and wherein the vehicle is configured to, or exposed to conditions sufficient to substantially prevent instability of the active pharmaceutical ingredient during the dispensing of the pharmaceutical solution.

24. (Previously presented) The device of claim 23 wherein the active pharmaceutical ingredient is highly concentrated and is applied in a picoliter volume.

25. (Cancelled)

26. (Previously presented) The device of claim 23 wherein the pharmaceutical solution is contained in the fluid reservoir, wherein the active pharmaceutical ingredient is digoxin, and wherein the vehicle is dimethyl sulfoxide or a mixture of dimethyl sulfoxide and an alcohol.

27. (Previously presented) The device of claim 23 wherein the pharmaceutical solution is capable of being dispensed onto at least two mediums, and wherein the variation of reproducibility is less than about 15% for the predetermined dosage on the at least two mediums.

28. (Previously presented) The device of claim 23 wherein the variation of reproducibility is in a range of about 5% to about 9%.

29. (Previously presented) The device of claim 23 wherein the variation of reproducibility is in a range of about 5.7% to about 8.2%.

30. (Previously presented) The device of claim 23 wherein the variation of reproducibility is in a range of about 7% to about 7.5%.

31. (Previously presented) The device of claim 23 wherein the active pharmaceutical ingredient has a solubility of at least about 30 mg/ml in the vehicle.

32. (Currently amended) The device of claim 23 ~~wherein the fluid dispenser includes the thermal fluid ejection device, and wherein during the dispensing, a small film of the vehicle is heated so that the stability of the pharmaceutical solution is unaffected.~~

33. (Previously presented) The device of claim 32 wherein the vehicle is dimethyl sulfoxide or a mixture of dimethyl sulfoxide and an alcohol.